

## Principal Investigator Profile

### ***Rafat R. Ansari, Ph.D.***

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### **Education & Training:**

- B.Sc (Hons), M.Sc, MS, Ph.D. Physics (Bio-photonics, Biomedical Engineering)

### **Adjunct Faculty Appointments:**

- Professor, Biomedical Engineering, Science, and Health Systems, Drexel University, Philadelphia, PA 1998-Present.
- Professor, Haute Ecole Valaisanne, Switzerland, 2003-Present.
- Professor, University of Modena, Italy, 2004-Present.

### **Guest Faculty**

- School of Medicine, University of Maryland, Baltimore, August 2002.
- Department of Ophthalmology, Moran Eye Center, University of Utah, March, 2001
- Schepens Eye Institute, Harvard University, Boston, MA, June, 2001
- University of Texas Aerospace Medicine, Galveston, TX, February, 2003
- Baylor College of Medicine, Continuing Medical Education (CME) for Flight Surgeons, March 2005

### **Editorial Boards:**

- Journal of Biomedical Optics (JBO) 2001-Present
- Special Issue Editor: Laser Applications in Medicine and Biology, Journal of Laser Physics 2002
- Special Issue Editor: Ophthalmic Technologies, JBO, Vol. 9, no.1, 2004
- Current Analytical Chemistry, 2004-Present

### **Scientific Advisor/Consultant:**

- Merck: "Optical methods for the evaluation of treatment: ocular and neurological disorders", 2004-Present
- State of Ohio, Aging Eye Public-Private Partnership: "Chair, Vision Research subcommittee", 2003-Present
- ThromboGenics Ltd., "Biotherapeutics for treatment of vascular diseases", 2003-2004
- University of Montana, "Health screening for diabetes and ocular diseases in rural populations of Montana" 2005-present.

### **Plenary Lectures:**

1. International Conference on Laser Physics, Bordeaux, France, 2000
2. LALS (Laser Applications in Life Sciences), Tokyo, Japan, 2000
3. Gordon Research Conference, Colby Sawyer College, NH, 2001
4. Society for Applied Spectroscopy, Cleveland, Ohio, 2001
5. International Conference on Advanced Laser Technologies, Constanta, Romania, 2001
6. International Conference on Laser Applications in Life Sciences, Vilnius, Lithuania, 2002
7. National Nursing Conference, Cleveland, OH, 2004
8. Association of Gerontology; Bridging Research & Practice: Aurora, OH, April, 2005

### **Invited Lectures:**

USA (31), Canada (7), Europe (6), Asia (2), India & sub-continent (6)

#### Awards and Honors:

- Abe Silverstein Medal, 2003
- Space Act Award, 2002
- Best Paper Award, Radiation Track, STAIF (Space Technology & Applications International Forum), 2001
- Public Service Medal, 1999

#### Invited Professional Courses:

- Neuroscience Research Center, Merck, Sharp, and Dohm, Harlow, Essex, UK, 2004.
- Optical Society of America (OSA) “Light scattering in Medical and Industrial Settings”, Orland, FL, 2002.
- Drexel University, “Ocular Spectroscopy”, Philadelphia, PA, 2001.
- SPIE Biomedical Optics, “Disease Diagnostics Using Ophthalmic Light Scattering”, San Jose, CA, 2001
- SPIE Biomedical Optics, “Light Scattering in Ophthalmology”, San Jose, CA, 2000
- NCMR Fluids Physics Lecture Series, “Theory and Practice of Light Scattering”, Cleveland, OH, 1999

#### Other (current) Certifications:

- FAA Private Pilot (single engine, land)
- SCUBA open water diver
- High-altitude physiological training

#### US Congress/Senate Citations/Testimonials:

- Congressman Dennis J. Kucinich (Ohio) March 2001
- NIH Testimony to U.S. Congress on the chronic disease, September 2002
- Senator Kay Bailey Hutchinson (Texas), March 18, 2005

#### US National Panels:

1. NSF/NIH panel: “Research at the Interface of the Life and Physical Sciences: Bridging the Sciences” 2004
2. Montana Congressman Denny Rehberg’s Aerospace, Aviation and Defense Panel, 2003

#### Graduate/Undergraduate-Student Advisor:

- Co-advisor: 3 Ph.D. & 2 MS thesis, and 15 undergraduate projects in physics, chemical and biomed.

#### Past Teaching Positions:

- Case Western Reserve University, University of Guelph/Waterloo, University of Calgary, Univ. of Karachi

#### Conference Chair:

- Chaired over 20 international science and engineering conferences and organized one.

#### Patents:

- Blood-glucose sensor (US patent 6,704,588), 2004
- Fiber-optic imaging Probe (US patent 5,973,889), 1999
- Ocular tissue characteristics (US patent 5,284,149), 1994

#### Publications:

- Over 80 published papers (basic, applied, and clinical research) in peer-reviewed journals and proceedings and 6 invited book chapters including Duane’s Clinical Ophthalmology and Handbook of Coherent Domain Methods

#### Media Coverage:

- Over 80 featured articles and cover stories in leading scientific & technical magazines, news papers, and interviews on NPR, ABC News, CNN WebMD, CBS News, NBC News, Europe TV etc.).